What is claimed is:

1.   A method for evaluating a delay fault test quality comprising;

a delay fault definition unit, defining delay faults for a semiconductor integrated circuit;

a delay fault selecting unit, selecting a part of the delay faults defined by the delay fault defining unit;

a first testable/untestable deciding unit, deciding whether or not a test can be performed for each delay fault selected by the delay fault selecting unit; and

a delay fault coverage calculating unit, calculating a delay fault coverage by using the number of the delay faults decided to be untestable by the testable/untestable deciding unit.

2.   The method for evaluating a delay fault test quality according to claim 1, wherein the delay fault defining unit defines path delay faults for all signal paths in
the semiconductor integrated circuit.

3.   The method for evaluating a delay fault test quality according to claim 1, wherein the delay fault defining unit defines the delay faults for all nodes in the semiconductor integrated circuit.

4.   The method for evaluating a delay fault test quality according to claim 1, further comprising a second testable/untestable deciding

unit for previously deciding whether or not the delay faults to be processed in the semiconductor integrated circuit can be tested.

5.   The method for evaluating a delay fault test quality according to claim 4, wherein the delay fault defining unit further includes a second testable/untestable for previously deciding whether or not the delay faults in the semiconductor integrated circuit can be tested and only the delay faults decided to be testabe by the second testable/untestable deciding unit are defined in the semiconductor integrated circuit.

6.   The method for evaluating a delay fault test quality according to claim 1, wherein the delay fault defining unit defines a prescribed number of delay faults smaller than the total number of delay faults for the semiconductor integrated circuit.

7.   The method for evaluating a delay fault test quality according to claim 1, wherein the delay fault selecting unit selects a prescribed number or a prescribed rate of delay faults of the delay faults defined by the delay fault defining unit at random.

8.   The method for evaluating a delay fault test quality according to claim 2, wherein the delay fault selecting unit selects the signal path having a maximum delay value that passes the node for each node among the path delay faults defined by the delay fault defining

· unit.

9.   The method for evaluating a delay fault test quality according to claim 2, wherein the delay fault selecting unit selects the signal path having a maximum number of steps of gates that passes the node for each node among the path delay faults defined by the delay fault defining unit.

10.   The method for evaluating a delay fault test quality according to claim 2, wherein the delay fault selecting unit selects the longest signal path that passes the node for each node among the path delay faults defined by the delay fault defining unit.

11.   The method for evaluating a delay fault test quality according to claim 1, wherein the first testable/untestable deciding unit generates an test sequence for the delay fault selected by the delay fault selecting unit and decides the delay fault in which the test sequence cannot be generated to be untestable.

12.   The method for evaluating a delay fault test quality according to claim 1, wherein the delay fault coverage calculating unit further includes a delay fault simulation unit for performing a delay fault simulation by using the provided test sequence for the delay faults defined by the delay fault defining unit; and a fault coverage calculating unit for calculating a fault coverage by using the

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number of delay faults defined by the delay fault defining unit, the number of delay faults which are decided to be untestable by the first testable/untestable deciding unit and the number of delay faults detected by the delay fault simulation.

13.   The method for evaluating a delay fault test quality according to claim 12, wherein the fault coverage calculating unit takes a value obtained by integrating a ratio of the number of delay faults selected by the delay fault selecting unit to the number of delay faults defined by the delay fault defining unit relative to the number of delay faults decided to be untestable by the first testable/untestable unit as a total number of untestable delay faults, takes a numerator of the delay fault coverage as the number of delay faults detected by the delay fault simulation unit and calculates a denominator of the delay fault coverage by subtracting the total number of untestable delay faults from the number of delay faults selected by the delay fault selecting unit.

14.   The method for evaluating a delay fault detection quality according to claim 2, wherein the delay fault defining unit further includes a first total value calculating unit for calculating the total value of a quantity of delay of the signal paths in design on which the path delay faults are defined, the first testable /untestable deciding unit further includes a second total value calculating unit for calculating the total value of a quantity of delay of the signal paths in

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· design on which the path delay faults are decided to be untestable, and the delay fault coverage calculating unit further includes a third total value calculating unit for calculating the total value of a quantity of delay of the signal paths in design on which the path delay faults are detected   and   a fault coverage calculating unit for calculating a fault coverage by using the total value of the   quantity of delay of the signal paths in design on which the defined path delay faults are calculated by the first total value calculating unit, the total value of the quantity of delay of the signal paths in design on which the untestable path delay faults are calculated by the second total value calculating unit and the total value of the quantity of delay of the signal paths in design on which the detected path delay faults are calculated by the third total value calculating unit.

15.   The method for evaluating a delay fault test quality according to claim 14, wherein the fault coverage calculating unit takes a value obtained by integrating a ratio of the number of delay faults selected by the delay fault selecting unit to the number of delay faults defined by the delay fault defining unit relative to the total value of the quantity of delay of the signal paths in design on which the untestable path delay faults are calculated by the second total value calculating unit as a total quantity of untestable delay faults, takes a numerator of the delay fault coverage as the total value of the quantity of delay of the signal paths in design on which the detected path delay faults are calculated by the third total value calculating

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. unit and calculates a denominator of the delay fault coverage by subtracting the total quantity of untestable faults from the total value of the quantity of delay of the signal paths in design on which the defined path delay faults are calculated by the first total value calculating unit.

16.   The method for evaluating a delay fault test quality according to claim 14 or 15, wherein as the quantity of delay of the signal path in design, a delay value of the signal path in design is used.

17.   The method for evaluating a delay fault test quality according to claim 14 or 15, wherein as the quantity of delay of the signal path in design, the number of the steps of the gates on the signal path is used.

18.   The method for evaluating a delay fault test quality according to claim 14 or 15, wherein as the quantity of delay of the signal path in design, the physical length of the signal path is used.

19.   The method for evaluating a delay fault test quality according to claim 1, wherein a value obtained by subtracting a prescribed error α from the delay fault coverage is taken as the delay fault coverage.

20.   The method for evaluating a delay fault test quality

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. according to claim 1, wherein assuming that the rate of the number of delay faults selected by the delay fault selecting unit to the number of delay faults defined by the delay fault defining unit is ß and the error of the delay fault coverage is Γ, a value obtained by subtracting the error Γ from the delay fault coverage is taken as the delay fault coverage.